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Building & Highway Material Testing Laboratory
An ISO 9001:2008 Certified Company
NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ
BSCIC
ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.08/KRIDL/CEMENT/2014-15 Date: 26.05.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements to roads and drains at Bullet Krishnappa House Road in Ward No.08, BBMP, Bangalore.
REFERENCE	:	AEE/KH/441/2014-15 Dated : 25.05.2014
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	175 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	460 Minutes	Not More than 600 Minutes
3	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm

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Job No.: CTCE/BBMP/W.No.08/KRIDL/SAND/2014-15 : 26.05.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to roads and drains at Bullet Krishnappa House Road in Ward No.08, BBMP, Bangalore.

Reference : AEE/KH/441/2014-15 Dated : 25.05.2014

Date of Testing : 26.05.2014

Material : Sand

Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	80	4.00	4.00	96.0	90-100
2.36	225	11.25	15.25	84.8	75-100
1.18	530	26.50	41.75	58.3	55-90
600 Micron	415	20.75	62.50	37.5	35-59
300 Micron	490	24.50	87.00	13.0	8-30
150 Micron	200	10.00	97.00	3.0	0-10

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Job No.: CTCE/BBMP/W.No.08/KRIDL/STEEL/2014-15 29.05.2014

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manage ,** KRIDL, Bangalore.
Name of the work	:	Improvements to roads and drains at Bullet Krishnappa House Road in Ward No.08, BBMP, Bangalore.
Reference	:	AEE/KH/441/2014-15 Dated : 25.05.2014
Date of Test	:	29.05.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	513	556	13.30	O.K	O.K

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Job No.: CTCE/BBMP/W.No.08/KRIDL/WMM/S-T/2014-15 11.06.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of Work	Improvements to roads and drains at Bullet Krishnappa House Road in Ward No.08, BBMP, Bangalore.
Reference	AEE/KH/441/2014-15 Dated : 25.05.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	11.06.2014

Result : Flakiness Index = **12.55%**

Elongation Index = **13.55%**

Result : Combined Flakiness & Elongation index 26.10%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Job No.: CTCE/BBMP/W.No.08/KRIDL /SDBC/Stripping/2014-15 14.07.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the work	Improvements to roads and drains at Bullet Krishnappa House Road in Ward No.08, BBMP, Bangalore.
Reference	AEE/KH/441/2014-15 Dated : 25.05.2014
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	14.07.2014

Type of binder : 80/100
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.3	3.33	96.67
2	3.2		
3	3.5		

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Comments:

→ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

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Job No.: CTCE/BBMP/W.No.08/KRIDL/SDBC/Sp_Wa/2014-15 14.07.2014

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements to roads and drains at Bullet Krishnappa House Road in Ward No.08, BBMP, Bangalore..
Reference	AEE/KH/441/2014-15 Dated : 25.05.2014
Type of Mix	Semi Dense Bituminous Concrete
Source / Location	Hotmix Plant, Bangalore
Date of Testing	14.07.2014

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2014	2010	2012	
2	Weight of basket suspended in water	W_2 g	755	755	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1259	1255	1257	
4	Weight of saturated surface dry aggregate in air	W_3 g	2020	2021	2022	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	761	766	765	
6	Weight of oven dried aggregate	W_4 g	2004	2005	2006	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.633	2.617	2.622	2.624
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.690	2.673	2.678	2.681
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.80%	0.80%	0.80%	0.80%

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2.0%

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